

**Notice of Allowability**

Application No.

10/731,806

Examiner

Xiuqin Sun

Applicant(s)

LIU ET AL.

Art Unit

2863

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/04/2007.
2. ☒ The allowed claim(s) is/are 1,3-6,8-12 and 14-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

## **DETAILED ACTION**

### ***EXAMINER'S AMENDMENT***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney Leanne R. Taveggia on 09/18/2007.

The application has been amended as follows:

Claim 5, line 1, change "The method of claim 2" to -- The method of claim 1—

### ***Allowable Subject Matter***

2. Claims 1, 3-6, 8-12, and 14-20 are allowed.

### ***Reasons for Allowance***

3. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claims 1, 3-6, and 8-11 is the inclusion of the limitations of calculating the center of gravity in second x ( $C_{x2}$ ) and y ( $C_{y2}$ ) components of a second coordinate system, wherein the second coordinate system intersects a pivot shaft of the actuator mechanism and has a y-axis in alignment with a longitudinal axis of a track accessing arm of the actuator mechanism and an x- axis

normal to the y-axis; and calculating a total mass unbalance of the actuator mechanism as a function of the first x ( $C_{x1}$ ) and y ( $C_{y1}$ ) components and the second x ( $C_{x2}$ ) and y ( $C_{y2}$ ) components. It is these limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claims 12 and 14-17 is the inclusion of the limitations of calculating the center of gravity of the actuator mechanism in second x ( $C_{x2}$ ) and y ( $C_{y2}$ ) components of a second coordinate system as a function of an angle ( $\Phi$ ) between a track accessing arm of the actuator mechanism and a y-axis of the first coordinate system; and calculating the mass unbalance of the actuator mechanism as a function of the first x ( $C_{x1}$ ) and y ( $C_{y1}$ ) components of the first coordinate system and the second x ( $C_{x2}$ ) and y ( $C_{y2}$ ) components of the second coordinate system. It is these limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of independent claims 18-20 is the inclusion of the means for determining the mass unbalance of the actuator mechanism as a function of first x ( $C_{x1}$ ) and y ( $C_{y1}$ ) components in a first coordinate system and second x ( $C_{x2}$ ) and y ( $C_{y2}$ ) components in a second coordinate systems, wherein the first coordinate system intersects a pivot shaft of the actuator mechanism and has a y-axis in parallel with a longitudinal axis of the system and an x-axis normal to the y-axis and the second coordinate system intersects a pivot shaft of the actuator mechanism

and has a y-axis in alignment with a longitudinal axis of a track accessing arm of the actuator mechanism and an x-axis normal to the y-axis. It is these limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (571)272-2280. The examiner can normally be reached on 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571)272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

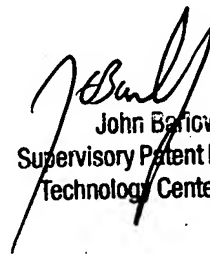
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

XS

September 20, 2007

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800